

IN THE CLAIMS:

Please amend the heading of the claims as follows:

CLAIMS WHAT IS CLAIMED IS:

Claim 1 (Currently Amended): A method for passage control of an unmanned mine vehicle, the method comprising:

limiting in a mine at least one predefined operation area [(4)] where one or more unmanned mine vehicles [(2)] operate; [and]

preventing unallowed access of the unmanned mine vehicle [(2)] to a manual area [(10)] limited outside the operation area [(4)], ~~characterized by~~

transferring the mine vehicle [(2)] from the operation area [(4)] to the manual area [(10)] or vice versa through at least one access station [(8)], the passage station [(8)] being arranged between the operation area [(4)] and the manual area [(10)];

performing the transfer of the mine vehicle [(2)] in the passage station [(8)] through a first access gate [(9)] and a second access gate [(11)] and further through an intermediate space [(12)] between the access gates [(9, 11)];

and, during the transfer of the mine vehicle [(2)], keeping at least one access gate [(9, 11)] closed at a time.

Claim 2 (Currently Amended): A method as claimed in claim 1, ~~characterized by~~
comprising

continuing the operations of the mine vehicles [(2)] in the operation area [(4)] uninterruptedly regardless of transfers of unmanned mine vehicles [(2)] in the passage station [(8)].

Claim 3 (Currently Amended): A method as claimed in claim 1 ~~or 2, characterized by~~
comprising

driving the mine vehicle [(2)] unmanned from the operation area [(4)] to the intermediate space [(12)] and, correspondingly, from the intermediate space [(12)] to the operation area [(4)],

and driving the mine vehicle [(2)] manned from the intermediate space [(12)] to the manual area [(10)] and, correspondingly, from the manual area [(10)] to the intermediate space [(12)].

Claim 4 (Currently Amended): A method as claimed in ~~any one of the preceding claims~~
claim 1, characterized by comprising

detecting the approach of the mine vehicle [(2)] to the passage station [(8)] by means of at least one detection point [(13)].

Claim 5 (Currently Amended): A passage control system of a mine, the system comprising:

at least one operation area [(4)] for at least one unmanned mine vehicle [(2)];

at least one gate ~~(3a to 3m)~~ for preventing unallowed access of the unmanned mine vehicle [(2)] to a manual area [(10)] outside the operation area [(4)]; ~~and~~

means for opening and closing the gates ~~(3a to 3m)~~ limiting free access of mine vehicles [(2)], ~~characterized in that~~

~~the system comprises~~ at least one access station [(8)], which is arranged between the operation area [(4)] and the manual area [(10)] and through which the mine vehicle is arranged to be transferred from the operation area [(4)] to the manual area [(10)] and vice versa;

and wherein

[[that]] the passage station [[(8)]] comprises two openable and closable access gates [[(9, 11)]] arranged successively at a distance from each other;

[[that]] the first access gate [[(9)]] is in the operation area side [[(4)]] and the second access gate [[(11)]] is in the manual area side [[(10)]];

[[that]] there is an intermediate space [[(12)]] between the first access gate [[(9)]] and the second access gate [[(11)]];

and [[that]] the passage control system is arranged to control the passage station [[(8)]] so that when the mine vehicle [[(2)]] is in the intermediate space [[(12)]], at least one access gate [[(9, 11)]] is closed.

Claim 6 (Currently Amended): A system as claimed in claim 5, ~~characterized in that~~
wherein

the operation of the passage station [[(8)]] is independent of the mine vehicles [[(2)]] operating in the operation area [[(4)]].

Claim 7 (Currently Amended): A system as claimed in claim 5 ~~or 6, characterized in that~~
wherein

the mine vehicle [[(2)]] is arranged to be transferred unmanned from the operation area [[(4)]] to the intermediate space [[(12)]] and, correspondingly, from the intermediate space [[(12)]] to the operation area [[(4)]];

and [[that]] the mine vehicle [[(2)]] is arranged to be transferred manned from the intermediate space [[(12)]] to the manual area [[(10)]] and, correspondingly, from the manual area [[(10)]] to the intermediate space [[(12)]].

Claim 8 (Currently Amended): A system as claimed in ~~any one of claims 5 to 7~~ claim 5, ~~characterized in that~~ the system comprises at least one detection point $[(13, 14)]$, which is arranged to detect the mine vehicle $[(2)]$ approaching the access gate $[(9, 11)]$ from the operation area $[(4)]$.

Claim 9 (Currently Amended): A passage station for mine vehicles, the passage station $[(8)]$ comprising at least one gate, which is arranged in a mine between an operation area $[(4)]$ limited for unmanned mine vehicles $[(2)]$ and a manual area $[(10)]$ limited outside the operation area, and through which access station $[(8)]$ the mine vehicle $[(2)]$ is arranged to be transferred from the operation area $[(4)]$ to the manual area $[(10)]$ and vice versa, ~~characterized in that~~

and wherein

the passage station $[(8)]$ comprises two openable and closable access gates $[(9, 11)]$ arranged successively at a distance from each other;

$[[that]]$ the first access gate $[(9)]$ is in the operation area side $[(4)]$ and the second access gate $[(11)]$ is in the manual area side $[(10)]$;

$[[that]]$ between the first access gate $[(9)]$ and the second access gate $[(11)]$ there is an intermediate space $[(12)]$, to which the mine vehicle $[(2)]$ can be driven through an access gate $[(9, 11)]$;

and $[[that]]$ the passage station $[(8)]$ comprises at least one control device, which is arranged to control the passage station $[(8)]$ so that when the mine vehicle $[(2)]$ is in the intermediate space $[(12)]$, at least one access gate $[(9, 11)]$ is closed.